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ABSTRACT

Between 1900 and 1905, Rudolph Focke published a series of papers on classification theory and a draft of a code for the construction of classified catalogs. His work was the direct result of the reform of librarianship during the last decades of the nineteenth century. The large number of classification systems used by German university and research libraries was seen as an obstacle to the development of national systems of bibliographic control and access. The hope of standardization came to nothing; Focke's code may even have had the opposite effect of perpetuating local systems well into the twentieth century. His work was introduced to librarians in the United States at a time when subject cataloging and classification were in transition. His code is consistent with the general principles underlying the Library of Congress Classification, which may have been more influenced by nineteenth century German classification than has heretofore been recognized. (Author)

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Rudolph Focke and the Theory of the Classified Catalog

by

Gordon Stevenson

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ABSTRACT

Between 1900 and 1905, Rudolf Focke published a series of papers on classification theory and the draft of a code for the construction of classified catalogs. His work was the direct result of the reform of Prussian librarianship during the last decades of the nineteenth century. The large number of classification systems used by German university and research libraries was seen as an obstacle to the development of national systems of bibliographic control and access. The hope of achieving standardization came to nothing; Focke's code may even have had the opposite effect of perpetuating local systems well into the twentieth century. His work was introduced to librarians in the United States at a time when subject cataloging and classification were in transition. His code is consistent with the general principles underlying the Library of Congress Classification, which may have been more influenced by nineteenth-century German classification than has heretofore been recognized.

INTRODUCTION

In 1904 the twenty-sixth annual meeting of the American Library Association was held in Saint Louis. The Louisiana Purchase Exposition and World's Fair had been in progress six months when librarians met in the Hall of Congresses on a mid-October afternoon to begin their week-long meeting. Herbert Putnam, librarian of Congress and president of ALA, set the tone of the proceedings in his opening address. "It was appropriate," he said, "that our program should deal with those larger phases of the library movement and those questions of elemental economy, which at our ordinary conferences have given way to discussion of practical detail; and that we should seek to include upon it statements of the progress and problems in other countries than our own."[1] Delegates from eighteen foreign countries were on hand, and more than half of the papers and communications dealt with international or overseas developments.

It was inevitable that national and international bibliographic control would be among the topics singled out for close scrutiny, for librarians were well aware of the rapidly expanding body of scientific literature and their responsibilities in its organization and diffusion. Cataloging and classification were very much on their minds. The librarian of the Italian National Central Library in Florence proposed that an international system of classification notation be adopted, and for this he recommended the Dewey Decimal Classification system. Ernest Cushing Richardson spoke

with his usual eloquence on the state and prospects of international cooperation in bibliographic control. Delegates were on hand to comment on the *International Catalogue of Scientific Literature* and the work of the Concilium Bibliographicum. Henri La Fontaine reported on the work of the International Institute of Bibliography and its Universal Bibliographic Catalog (which then included around 2.5 million classified entries). Richard Fick, from the Royal Library in Berlin, noted that "a word about the Prussian 'Gesamtkatalog' will not be unwelcome,"[2] and then read one of the longest papers of the entire conference. Somewhat more mundane were reports from William C. Lane on current trends in cataloging and from Charles Martel on tendencies in classification. Such was the framework within which American librarians heard a rather formidable disquisition on what was identified as "the general theory of classification."

In planning the program, Putnam invited a German librarian, Rudolf Focke, to prepare a paper on classification theory. Focke did not attend the Saint Louis meeting, but he did write a paper which was translated into English, read in summary form at one of the sessions, and published in the conference *Proceedings*.[3] This scholar-librarian was a good choice for the theoretical paper. His credentials included experience with several of the most important nineteenth-century German classification systems and an education in the burgeoning school of Prussian librarianship. He had already demonstrated a highly critical and analytical approach to problems of classification. At the time of the Saint Louis conference, he was supervising the construction of a new classified catalog based on the system which Otto Hartwig had devised for the library of the University of Halle.[4] Hartwig's system, one of the most modern European systems in use around 1900, was the main link between Focke and Putnam. In searching for a classification system for the Library of Congress, Putnam's staff had examined the Hartwig classification in considerable detail. Though the system was rejected, it did have some influence on the new system finally developed for the Library of Congress.[5]

Under the circumstances, one would have expected a rather lively discussion of Focke's paper at the Saint Louis meeting, but such was not the case. After Richardson read summaries of papers by Martel and Focke, the librarian from Harvard University pointed out that Focke's ideas about one of the structural details of the classified catalog were consistent with the catalog at his own library. But at this point, William I. Fletcher of Amherst College asked Melvil Dewey a question about the proposed new edition of his Decimal Classification system. Focke was quickly forgotten, and the rest of the meeting was devoted to Dewey's system.

These were important years in the history of classification, for decisions made around the turn of the century had wide ramifications on the subsequent development of subject cataloging and classification in the United States. How librarians use classification in subject control and access has not substantially changed in the seventy-five years since the Saint Louis meeting. If at the time little attention was paid to Focke's theories, this was not because there were not many important links between the new American schemes developed after 1876 and the long European tradition which Focke represented. But for most libraries in the United States during Focke's time, the crossroads had been reached and commitments were made which set subject cataloging and classification on a course quite different from the one they were to take in European libraries.

An examination of Focke's work is especially useful in helping to place U.S. classification in the larger perspective of the European classification tradition. It also raises some interesting questions about the origins of the theoretical and practical foundations of the Library of Congress Classification. In any case, Focke's contributions were substantial enough that no study of the history of classification in the twentieth century can ignore him.

FOCKE AND HIS MILIEU

Rudolf Focke was born in Itzehoe, a small city in Holstein, on April 4, 1852.[6] As a young man, his interests were in medicine. However, after serving in the Franco-Prussian war (1871-72), he turned to the study of philology and philosophy. His first professional position was that of *gymnasium* teacher. Finally, in 1881 at the age of twenty-nine, he began his library career at the University of Berlin. In 1887, he moved to the Landesbibliothek in Wiesbaden. He subsequently served at the University of Göttingen from 1894 to 1901, and briefly at the University of Greifswald in 1901. When the Prussian minister of culture, Friedrich Althoff, established a library in Poznan for the purpose of advancing German culture in the ancient Polish city, he chose Rudolf Focke as its director. Focke held this position until his death in 1918. Focke, then, was active during the decades following the unification of Germany when libraries, particularly the Prussian university libraries, were organized into what was surely the most progressive and efficient network of academic libraries anywhere in the world.

Early in the reorganization of the Prussian libraries, cataloging was placed high on the agenda of items needing reform. Bibliographic networks, centralized cataloging, and national bibliographic control all led, inevitably, to the logic of a national cataloging code and a national classification system. By 1900 the Prussian Instructions were well on their way to providing the basis for the standardization of descriptive cataloging, and librarians now turned their attention to subject cataloging. This opened up a chapter in the history of German classification that has not been closed to this day. Most librarians agreed that some form of classification was essential, but there seems to have been little agreement on how to structure classification systems. Each of the ten Prussian university libraries had its own system, as did other German university libraries and the various state and municipal libraries. This diversity was soon recognized as a serious impediment to the full development of an efficient system of national bibliographic control. Some librarians were of the opinion that the new Prussian union catalog (eventually published as the *Deutscher Gesamtkatalog*[7]) should be a classified catalog based on a classification system that could be adopted by all Prussian university libraries. The issue was further complicated by the revival of interest in the alphabetical subject-heading catalog.

By the time Focke entered the picture, the classified catalog had already lost some of its credibility as a viable subject guide among librarians in southern Germany, France, Austria, and the United States. But Focke was from northern Germany, and this was a stronghold of the classified catalog. Consistent with the librarians of his generation, Focke had a rather exalted conception of the place of classification in librarianship. His was essentially the nineteenth-century view, that classification is a central activity in the professional life of the librarian. In his paper of 1905, he put it this way: "The activity of librarianship culminates in the preparation of the classified catalog. In this is the truly scientific part of the librarian's professional work."[8] On this point, some librarians in the United States would have agreed. Richardson, for example, wrote, "Classification itself is the highest function of the librarian's work...the acme of bibliothecal work."[9]

During his tenures at Berlin, Wiesbaden, Göttingen, and Greifswald, Focke had the opportunity to examine a variety of classified catalogs. Two of these were extremely important. At Göttingen he worked with the prototype of the research-oriented university subject guide, a catalog developed to serve what in its day was the most influential university library in Germany. While in Berlin, he would have used the most famous of all

German classified catalogs, the Berlin Realkatalog, the catalog of the Prussian Royal Library. However, when he had to make a decision on the system to use at the new library in Poznan, he chose the Hartwig system.

As we shall see, Focke never completely escaped from his historical roots. Some of his ideas about classification are progressive; but on the other hand, there are certain aspects of his thinking which are typical of the nineteenth-century and closely related to the German approach to the structure and uses of classification.

FOCKE'S HISTORICAL POSITION

Focke's reputation as an authority on classification theory was based on a paper he read at a meeting of the Library Science Section of the Association of German Philologists in 1899. This paper, which dealt with "the system of the sciences and their use in the classified catalog," was published in 1900 under the title "Grundlegung zu einer Theorie des systematischen Katalogs."[10] After his Saint Louis paper entitled "Classification: The General Theory," Focke made one more contribution to the literature on classification theory, his "Allgemeine Theorie der Klassifikation und kurzer Entwurf einer Instruktion fur den Realkatalog."[11]

Focke believed that the standardization of classification could be achieved only if a thorough study were made of the basic theoretical principles on which library classification systems are based. Unlike many others who wanted to improve classification systems, Focke did not construct a new system of his own. What he did do—and his position in the history of classification—was recognized by Rudolf Kaiser in 1933, when he wrote: "For a long time, one laid out and continued a classified catalog in which the books were arranged according to any system which happened to be available or according to some newly-found bibliographical system; one seldom thought about the theory of the classified catalog. The consequences of this were mostly faulty and contradictory catalogs which were internally inconsistent. It was Rudolf Focke who was the first, in 1900 and 1905, to thoroughly investigate the possibility of theory."[12]

This is a rather remarkable statement, for German librarians had had more than a century of experience with classification by the time Focke took an interest in it. Both the classified catalog and the alphabetical subject catalog were discussed in a series of German-language textbooks on library

science dating to well before 1800. Between the publication of Michael Denis's *Einleitung in die Bücherkunde* (1772-78) and Arnim Graesel's *Grundzüge der Bibliothekslehre* (1890), one can identify around twenty library science texts.[13] If Kaiser is correct, these works provided no theoretical underpinnings for the classification systems of the nineteenth century. These sources have not been studied in any detail, but an examination of Graesel's widely influential book indicates that the nineteenth-century German library literature was not as barren of theoretical considerations as Kaiser would have us believe.

Of the classified catalogs in use in German universities around 1900, only five had been started after 1874: the catalog of the university at Heidelberg and those at four universities which had adopted variations of Hartwig's system. Most of the others could trace their origins back a half-century or more.[14] Most of these catalogs remained in use until World War II, and some remained in use until the 1950s. Despite their astonishing longevity, these catalogs became the subject of criticism, debate, and controversy after 1900. It was in part as a response to these growing doubts about the classified catalog that Focke turned to an examination of classificaton theory.

THE USES OF CLASSIFICATION

Before considering Focke's theories, it is necessary to comment on the uses of classification in the organization of library materials, since this point seems to be the one on which Focke and German practice diverged most sharply from the practice developing in the United States around 1900. It is also the point that later created sharp differences in practice among German libraries. Simply put, the question is whether a classification system should be used: (1) only for arranging entries in catalogs, with the books arranged by some other system, such as accession numbers or even a different classification system; (2) only for systems of shelving books, with the catalog structured by a system of alphabetically arranged subject terms; or (3) for both the arrangement of entries in catalogs and books on shelves. At various times, both in the United States and in Europe, all three systems have been used.

Focke's point of departure was the classified catalog; he said nothing about the use of classification in shelving books. According to Georg Leyh, by 1900 the use of one system for both shelving and cataloging had long been standard practice in German libraries.[15] Apparently this approach was widely recognized as a characteristic of German libraries, for Fumagalli

identified it in 1890 as the *"Credo germanico della collocazione sistematica."*[16] Lehy tells us that Focke's library at Poznan was committed to this *"Credo germanico."*[17]

The situation in the United States, however, was somewhat different. Whatever hold the classified catalog had on librarians in the United States began to wane very rapidly after Charles Ammi Cutter published the first edition of his *Rules for a Printed Dictionary Catalogue* in 1876.[18] By 1904, the date of the fourth and last edition of the *Rules*,[19] the classified library catalog was well on its way to becoming an anachronism in the United States. Most librarians had decided that classification was for systems of shelving books, and that catalogs were to provide subject access by interfiling subject references with author and title references in Cutter's dictionary catalog. Yet, even in 1904 some librarians in the United States still held out hope for the survival of the classified catalog. Melvil Dewey, who in 1888 had said, "the dictionary catalog has been a popular fad and will soon die out,"[20] still believed in it. Since he was on the Exhibits Committee of the Saint Louis conference, it was probably not by accident that among the items on display was a classified catalog based on the Decimal Classification system. And at one of the meetings, Clement W. Andrews raised the issue of the relative merits of alphabetical subject-heading catalogs and classified catalogs. Andrews was librarian at the John Crerar Library, one of the few libraries in the United States to continue a classified catalog after 1900.

To his credit, Richardson recognized the difference between what he identified as "book classification" and "card classification," or "shelf classification" and "analytical card classification."[21] Although he stated that the "principles and practical difficulties of these two forms...are substantially the same,"[22] he likened the process of constructing his "analytical card catalog" to the chemical process of reducing a substance to its basic elements (an analogy also used by Focke and others). Shelf classification, he argued, precluded this sort of detailed analysis because of the nature of the book as physical object.

In view of the major trend away from the classified catalog in the United States, we come to an anomaly when we consider the Library of Congress. From the beginning, the architects of the Library of Congress Classification system intended that it be used for both a classified catalog and the shelving system. La Montagne points this out[23] and quotes Martel, who wrote, "In libraries mainly or exclusively devoted to reference service a classified catalog is needed, not to say indispensable," in addition to the alphabetical subject-heading catalog.[24] It was Martel's plan that the shelf-

list, properly amended with cross-references and guide cards, would serve as a classified catalog.

These notable exceptions notwithstanding, an era had ended and the classified catalog quietly disappeared from the American library scene. There were no heated arguments, no searching theoretical discussions, and few mourned its passing. For Focke, however, the classified catalog was very much a live issue.

THEORY

Focke's specific purpose was to answer the question: "To what extent is it possible to establish generally valid principles for the constuction of a systematic or classified catalog?"[25] In answering this question, he considered the possibilities and limitations of logical classification, the structure of the sciences, the relationship between science and the literature of science, and the characteristics of libraries. Focke, of course, spoke of *Wissenschaft* (i.e., the broadest interpretation of the term *science* including all of the arts, and the humanistic, the natural, and the physical sciences). The reference point to which he related all aspects of classification was the catalog itself in its structural and functional requirements. This approach—i.e., shifting the emphasis from philosophical, theoretical, scientific, and even bibliographical concepts of the structure of knowledge to the structure of the catalog itself—may prove to be, in the end, Focke's most notable contribution to the development of library classification systems.

He defined the classified catalog as "the bibliographical-chronological index of the books in one or more libraries." "Throughout," he wrote, "its divisions, which are made possible by the formal character of the literature, are based on the single sciences."[26] In examining Focke's rationalization of this somewhat cryptic definition, four basic principles emerge:

1. Classification is a logical process of systematic division that results in hierarchy, subordination, and coordination;
2. The basis for library classification is found in the structure of the sciences;
3. There is a difference between conceptualizations of science and the literature of science, and library classification deals with the literature of science; and
4. The use of the literature in a specific library shapes the broad structural parts and many of the details of a specific system.

Focke defined classification as "an elementary process of cognition" which consists "in the systematic arrangement of ideas *(Begriffe)* into classes thoroughly carried out."[27] Classification, for Focke, began with logical division:

> When we divide the whole subject matter of the sciences or of a special science into a series of coordinate divisions strung together one after another, it is not classification but simply division. In classification subordination must accompany coordination. Subordination consists in the establishment of main divisions and subdivisions. Classification is, therefore, not a mechanical but a logical process of division, and moreover, a logical division which proceeds from a supreme concept, limits the scope of the concept by addition of distinctive attributes, forms new and subordinate concepts with reference to opposite characteristics, and arrives finally at the lowest species.[28]

In theory, this process of division and subdivision can continue until one reaches "the single idea, the single fact."[29] In practice, two nonlogical factors modify and control the basic classified order: the structure of the literature and the use of the literature in a specific library.

Focke identified three basic types of classes: the scientific-systematic, the literary-formal, and the subject-alphabetic. The first of these are the classes which result from the logical division of the subject. The second type consists of classes in which the literary form is intrinsically related to the type of information presented; these are always subclasses of the scientific-systematic classes. They include encyclopedias, periodicals, bibliographies, and the like; but Focke also included in this category material that is less defined by form than by content, such as sources, philosophy of the subject, methodologies, etc. The uses of scientific-systematic and literary-formal classes are discussed in rules 6, 7, and 8 of the code (i.e., the Instruktion).[30]

Focke was cognizant of the difference between what we would today call subject specification and subject classification. The former produces discrete divisions or groups which are arrived at by resolving "the entire matter of science or portions of it into subject catchwords."[31] These groups or divisions can be arranged in two ways: the subject-alphabetic and the scientific-systematic. The first type of arrangement produces the alphabetical subject-heading catalog, and the second produces the classified catalog. There is a place for the subject-alphabetic method in Focke's system, but only in the lower reaches of the hierarchy, where it is used as a practical necessity where a classified structure is no longer useful. This produces Focke's third type of class: the subject-alphabetic. These classes emerge from the substantive content of a superordinate class, but are

defined by their structural relationship to that class (i.e., they are not classified, but are organized alphabetically). Rule 5 of the code is devoted to these classes.

Focke's attitude toward classification notation was completely negative. He commented specifically on the decimal notation used in Dewey's system, describing it as an extraneous principle which acts on the system like a bed of Procrustes.[32] Clearly, he did not approve of any classification notation in the modern meaning of this concept. Rather, he assumed that some local system of call numbers or shelf marks would be devised to locate the books and tie the shelving system to the classification system used in the catalog. Other details of Focke's theories are best considered in relationship to his code.

THE CODE

Focke's rationalization of the foundations of library classification was such as to preclude the development of a new general classification scheme. Rather, he felt it necessary to formalize the principles and procedures involved in the actual construction of a classification system for a classified catalog. The result was a remarkably succinct statement. The first version consisted of only seven rules.[33] The final version, that of 1905, was expanded to ten rules.[34] Focke claimed that this was only a draft or sketch of a code, noting that he did not include all of the details involved in constructing a catalog and that some of the rules (1, 4 and 7) were relative to local circumstances.

> 1. Instead of a systematic classification of the totality of knowledge, one uses divisions of the single sciences which correspond to the character and problems of each individual library and its practical needs. These divisions are realized in the form of main subjects.

It is clear, then, that Focke was not searching for that elusive universal order of nature or an all-embracing framework within which to enclose the totality of human thought. Library classification in the Focke canon begins with the single sciences, with their divisions and parameters as defined by current practice. Furthermore, the main classes in any specific catalog are entirely a function of the needs and collecting areas of that library. If, for whatever reason, a library does not collect books in a specific science or discipline, that science or discipline is not represented in the library's catalog as a main class. The idea that each library's collections and services are unique was to remain an axiom of German librarianship long after Focke's time.

Focke was firm in his conviction that librarians "must give up the theoretical requirement that the sequence of main classes must express a systematic division of the totality of knowledge."[35] Furthermore, as far as librarians are concerned, "an inner-motivated series of the great main disciplines...is of very slight significance."[36] He presented two points of view in regard to the totality of a classification system and the order of the main classes. To support his own approach, he quoted Andreas Schleiermacher, author of the *Bibliographisches System*: "Nothing is more arbitrary than the division and order of the sciences, which can be presented from different points of view."[37] The opposite view is represented in Focke's discussion by a quotation from Lorenz Von Stein's *System der Staatswissenschaft*, which Focke noted is rooted in the Hegelian dialectical method: "The system of life, and with it, the system of science, cannot appear more-or-less arbitrary...only one system can be recognized as possible and correct."[38] These contradictory points of view were no problem to Focke. Both are true, he said. Philosophically, Von Stein is correct; but library catalogs do not deal with philosophical issues. They deal with the practical realities of organizing printed information for access and use.

As to the actual choice of main classes for a specific library catalog, Focke suggested that "work areas" (*Arbeitsgebiete*) be used, by which he meant areas of research and disciplines. These, he believed, could be found in the traditional university faculty structure, and areas not found in the faculties could be added to the faculty of philosophy.[39]

> 2. The question whether an area of research is to be treated as a science is decided not only according to its scientific significance, but also according to the degree of its bibliographic independence. Thus, a new main class for a newly developed science will only be established when there is a sufficient quantity of bibliographic material.

In Focke's system, to "treat an area of research as a science" is to identify it as an independent main class and then systematically organize its concepts by logical classification. In his Saint Louis paper he had spoken of "the methodological demand that the whole of anything which may be the object of scientific investigation and literary treatment must be capable of presentation in the form of a clearly and logically developed chain of subdivisions."[40] The "literary treatment," however, must exhibit bibliographical independence and indeed provide a literary warrant for the development of the main class. In Focke's lifetime, he had seen basic changes in the superstructure of science and accepted as a matter of course a continuing change in science.

> 3. In constructing the schedules for each individual science, the system is based on the most current and widely known system. The schedules must be

rewritten or newly constructed as soon as progress in science has outdated them.

The inner structures of Focke's main classes were to be organic, continually responding to advances in knowledge and changes in the structure of the literature. This explains, in part at least, Focke's rejection of classification notation, which he assumed would act like a straitjacket on the system. There were and still are today, enormous problems involved in continually maintaining the sort of currency that Focke wanted. It remained for Leyh to explore this problem thoroughly in his famous and influential article of 1912 on the "dogma" of the use of classified shelving systems in Germany.[41]

4. The number of subclasses [*Abstufungen*] coming to expression in a classified catalog stands in direct relation to the quantity of pertinent literature that is actually available in the specific library. In other words: the decision between the subordination and coordination of concepts which stand in the relationship of the general to the special depends on the degree of bibliographical independence of the narrower concept.

The original German of this rule begins: "*Die Anzahl der im Realkatalog zum Ausdruck kommenden Abstufungen....*" One could translate this in the passive rather than the active voice as "The number of subclasses used...." This translation is avoided here because Focke's language suggests that the classes emerge from the interaction of the elements which form the basis for the catalog (i.e., they are not rigidly imposed from without). Similar language is used by Focke in rules 1 and 7, but I have dealt with these differently. In any case, this rule is the logical continuation of rule 1. Not only are the broad outlines of the system entirely dependent on the collections of a specific library, but also the inner details. Thus, in one library's catalog, a topic may be a main class; in another library's catalog, this same topic may be a subclass of a larger topic. The difference can be related to what was subsequently identified in the Anglo-American literature as "close" versus "broad" classification.

5. If a systematic division [a class] contains a quantity of coordinated subdivision such as to make control difficult, the subject-alphabetic principle of order is always to be used; thus, the employment of this principle of order is an essential supplement to the classified method of order.

Focke said of his catalog that it was based on a "clear and distinctly regulated combination of systematic and subject-alphabetic principles of order."[42] In his thinking, the importance of the use of the subject-alphabetic order seems to have increased between the first and the final versions of his code. He was convinced, he said in 1905, that for the great research *(wissenschaftliche)* libraries of Germany, this combined method had advantages over a purely classified method. The reason for this, though Focke did not say so, was the sheer size of the collections and the

extensive detail needed in subject specification in research libraries. He did say that his rationale for the combined method was based both on "inner and outer grounds"—inner factors related to the internal structure of the catalog and exterior factors related to the use of the catalog. Focke assumed that these coordinated subdivisions, though they might lend themselves to a classified arrangement, would be so arranged at the expense of ease of use. All users of the Library of Congress Classification system have found time and time again, coordinated subclasses arranged alphabetically by subject terms. It is not unlikely that Focke's thinking about his subject-alphabetic method was influenced by the emerging controversy over the alphabetical subject-heading catalog in Germany.

> 6. From the substantive groups which are derived from the systematic classification (i.e., from the [hierarchical] steps of the system and the subject-alphabetic divisions of the classified catalog), those subjects which are to be most strictly distinguished and set apart are those formed according to the method of presentation in the books themselves, that is, the literary-formal divisions, such as: bibliography, biography, history, philosophy and methodology, sources, periodicals and the like, collections, lexicons, systematic presentations, monographs.

Throughout the system, there is a constant distinction between substantive classes based on the general and the special aspects of subjects. This rule deals with the interpolation of Focke's literary-formal classes. These, of course, are the standard subdivisions, which are used more or less frequently in all sciences and subdivisions of sciences.

> 7. The number of literary-formal divisions used in a system stands likewise in direct relationship to the quantity of pertinent literature on hand in the library.
>
> 8. The systematic method of arrangement, which is completed through the use of the subject-alphabetic method, regularly alternates with the literary-formal method.

Thus, Focke notes, although rule 8 clearly distinguishes those parts of the catalog which are based on subject divisions and those which are based on formal divisions, the two are bound together in the overall structure of the catalog. Using rules 1 through 8, the librarian constructs the schedules (*Rubriken*) of the classification system.

> 9. Within the schedules derived from the above, the books are arranged in a bibliographical-chronological order.

This rule simply states that within each class the final arrangement of the entries is chronological by date of publication (rather than alphabetically by authors' names).

> 10. For large libraries, it is recommended that the use of the classified catalog can be made easier if a carefully laid-out index to the system is prepared and kept current.

Unfortunately, Focke did not elaborate on the structure of this index. The indexes to German classified catalogs present a very diverse picture. In the U.S. tradition, we would assume that an index along the lines of, say, the Library of Congress Classification system would be used (i.e., references from alphabetically arranged terms to the classes in the schedules). Such an index was used by Schleiermacher in his published classification, but this was by no means common practice in Germany.[43] The more common practice was to provide index terms only as individual items were cataloged. These catchword indexes seem to have been based on titles, rather than on formally structured systems of general subject terms. Indexes to German classified catalogs, in any case, do not seem to have been widely used until the rise of interest in the alphabetical subject-heading catalog after 1900.

The ten rules of Focke's code are, in themselves, clear enough. What is not clear is the extent to which the code reflects what librarians were thinking and doing during Focke's time, and to what extent it broke new ground. Focke intended that his work should provide a foundation for the standardization of classification in German libraries. We know that this never happened. The search for a standard classification system (*Einheitsklassifikation*) has been one of the most persistent issues in German librarianship throughout the twentieth century. It remains unresolved today.

FOCKE AND GERMAN CLASSIFICATION

In Focke's time, the German library student's *vade mecum* was Arnim Graesel's *Grundzüge der Bibliothekslehre*, which was in fact Graesel's revised and enlarged edition of Julius Petzholdt's venerable "catechism" of library science.[44] If any single work summarized the fundamental concepts of German librarianship around the turn of the century, it was Graesel's.[45] To what extent, then, did Focke depart from the practice of his time as documented by Graesel? There is considerable agreement on certain basic issues. Both men believed that each library has unique classification problems. Graesel wrote that the librarian must develop a system reflecting the special qualities of the library: "The system is best which corresponds most purposefully and perfectly with the special characteristics and subject needs of a library."[46] This is exactly what Focke said. On the other hand, Graesel spoke of the "higher scientific unity of the whole system,"[47] which cannot be reconciled with Focke's practical ideas of literary warrant and bibliographic independence. Graesel commented only briefly on structural problems, noting simply that the special divisions must always follow the general divisions. He insisted, as did Focke, that the catalog must

reflect the current state of knowledge, noting as one of several examples that in his time the "general science of language" (*Allgemeine Sprachwissenschaft*) had emerged as a separate discipline from philology. He assumed that the classified catalog would be a book catalog and provided a sample page from a catalog using the Hartwig system (and, at the same time, illustrated the extremely limited role played by class numbers in such catalogs).[48]

Focke's chief contribution seems to be the singular clarity he brought to his discussion regarding the relationship between the classification systems used in libraries and the structure of the sciences, the literature of science, and the functions of a specific library. It seems, then, that pending a more thorough study of theory and practice in the late nineteenth century, we may conjecture that much of Focke's work was a clarification and systematization of more or less widely known principles of catalog construction.

In regard to Focke's attitude toward classification notation, it seems clear that his thinking reflected the consensus of German librarians. One classified the books first, and then devised a system of shelf marks to be tied in with the catalog as a locating device and to provide a systematic shelf arrangement. Classification notation, in short, was not a symbolic language of classes. Users of German libraries, if they browsed at all, browsed through classified catalogs, for the stacks were not usually open to faculties or students. (This is still largely the case today in Germany, which may be one reason the classified catalog is still widely used.) A more modern system of classification notation was actually worked out some fifty years before Focke by the librarian from Darmstadt, Andreas Schleiermacher, in his *Bibliographisches System*.[49] This work, which is one of the most remarkable of all nineteenth-century classification systems, not only used a system of notation, but in three of its sections used tables of standard subdivisions and area tables which were not essentially different from devices used in the systems of Dewey and Cutter. These latter systems were to form the point of departure for twentieth-century analytico-synthetic systems. That synthetic devices appeared first in Schleiermacher's system around 1850 is astonishing.[50]

Focke's great concern for the definition of his "literary-formal" classes had been, of course, of equal concern to both Dewey and Cutter; and before 1900 the concept had found limited acceptance in Europe, not only in the Universal Decimal Classification, but also in the library classification system of Giuliano Bonazzi and in the system designed for the *International Catalogue of Scientific Literature*.[51] Focke, though apparently the first German librarian to formalize the procedures for the

use of such regularly recurring subclasses, did not relate the system to a parallel system of synthetic notation. This, of course, made all the difference between a nineteenth-century system and a twentieth-century system.

Because of the flexibility of rules 1, 4 and 7 (which relate to the structure of the system at the local level), there were severe limits on the extent to which the code could contribute to the standardization of German classification by the wide adoption of one set of classification schedules. Though it is difficult to assess Focke's practical impact on catalog construction, we do know that librarians did not abandon their old catalogs to start new ones. Most of the classification systems used in the construction of these catalogs have never been published. Thus, Focke's impact on the inner details of catalog construction could only be determined by a close analysis of dozens of catalogs in terms of their relationships to the historical development of sciences and disciplines in the twentieth century, the production of scientific literature, the functions and services of individual libraries, and the nature of the collections they inventoried. In any case, what preoccupied most German librarians after Focke was not the question of each library's unique classification needs (which were taken for granted), but how to keep their catalogs current with advances in science and whether these catalogs should be replaced by or supplemented with alphabetical subject catalogs.

Focke, like the great majority of Prussian librarians, did not accept the alphabetical subject catalog as a substitute for the classified catalog. Nor did he involve himself in the extensive debate over this type of catalog which was then just beginning in Germany. As to keeping the classified catalog up to date, Focke said only that librarians must restructure their catalogs whenever changes in science or its literature outdated their current systems (rule 3); he did not comment on the practical implications of such procedures. Less than ten years after Focke published the final version of his code, Leyh analyzed the problem of the classified catalog.[52] He believed that most German catalogs were out of date and inefficient. One of his basic ideas was that the problem of keeping catalogs current was compounded by the fact that the same system was used for both cataloging and shelving. For one thing, the rearrangement of bibliographic entries could be accomplished relatively easily if these entries were not related to the shelving system.

The theoreticians and practitioners concerned with classification in Germany between the time of Focke and the early 1940s included Hans Trebst, Hanns Wilhelm Eppelsheimer and Wilhelm Fuchs. There were

many, many others, for the period was one of intense concern with classification. These men, however, are representative of the main trends. The theoretical work of Fuchs[53] was not, generally speaking, well received. As Gebhardt has written, the cosmic dimension of Fuchs's theory reaches its peak in the statement that "the arrangement of books basically does nothing less than mirror the order of being itself....'thus, a direct connection leads from the [classified] catalog, through the literature, science, and philosophy to being itself and its naturally-ordered manifestations.'"[54] This is a statement more appropriate to the eighteenth-century theories of classification than to the work of Focke.[55] If Fuchs was too reactionary for most German librarians, one of his predecessors, Hans Trebst, proposed too radical a break with the past in his plans for an "analytical catalog."[56] Trebst simply did not deal with the same issues that had concerned Focke. His catalog in some ways anticipated modern inductive systems of classification; however, Trebst agreed with Focke that classification notation is extraneous, unnecessary and counterproductive. But like Ranganathan (whose work he would not have known), Trebst tried to establish an analytical system of classification based on fundamental categories (time, space, etc.)[57] Fuchs and Trebst probably represent the two extremes of German clasification theory.

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Of the relatively few new classification systems in Germany between 1900 and 1940, the system of Eppelsheimer proved to be the most influential.[58] Claus Nissen has shown the great extent to which Eppelsheimer's system fulfills the requirements of Focke's code.[59] Furthermore, Eppelsheimer arranged his main classes in alphabetical order, a system clearly amenable with Focke's thoughts on the order of main classes. Also, like Focke, Eppelsheimer developed a *method* of constructing a classified catalog, with the assumption that it was flexible enough to lend itself to numerous variations in local application. The Eppelsheimer system, however, uses a system of classification notation (designed to arrange the entries in the card catalog, not to arrange books on shelves).

In 1940 Focke's ideas were still generally accepted, in principle if not in practice, in Germany. If his ideas were not extensively discussed in the

literature, this was because they were taken for granted. Yet, throughout these years there were at least a few librarians interested in the possibilities of a national standard system. Also, the structural innovations of Dewey and Cutter slowly found some advocates, and there was always a small group intensely interested in propogating the Universal Decimal Classification.[60] Thus, two structural features found acceptance: (1) the use of classification notation of a sort useful for ordering entries in the catalog and at the same time providing at least a limited subject expressivity; and (2) tables of standard and local subdivisions.

The continuity between the prewar and postwar periods may be illustrated by two quotations. In 1958, in his review of the new classification system devised by Buzás for the University of Munich,[61] Gebhardt quoted a statement written by Bauhuis in 1939: "A classified catalog in its *Art* and *Aufbau* [i.e., its method and structure] must represent the stock which is organized; a model [i.e., a published classification schedule] 'that is to be taken over without change as a standard system without regard for the traditions, holdings, and functions of a specific library has no practical value.'"[62] And in 1950 Zimmermann wrote: "A classified catalog can be built up only from a definite book stock; therefore, the catalog of each library must have its own individual character...the working out [of the details] of each subject area must grow from the subject itself and is not independent of an actual collection of books."[63] Thus, while the idea of standardized methodologies and general structural features was accepted, that of a standard scheme (with a fully enumerated system of detailed subject classes) was rejected. For those librarians who did want to cooperate by using a new general system, there were two problems: (1) the isolated conditions under which library redevelopment took place after the war, and (2) the lack of a suitable modern system, fully worked out and ready to use. Except for the modest dispersal of Eppelsheimer's system, German librarians rejected all known German systems and, of course, emphatically rejected both the Dewey and the Library of Congress classification systems.

The first significant postwar German theorist was Hans Sveistrup. His catalog, constructed according to principles which he identified as "operations classifications," was planned for (but only partially realized at) the University of Hamburg.[64] Shamurin wrote that Sveistrup's system "is the most consistent and perhaps only realization of the structural principles of the Universal Decimal Classification in German practice,"[65] which was probably true in the mid-1950s, when Shamurin published his history of classification. In terms of theory, Sveistrup was far beyond Focke, as were all others who constructed systems of classification after 1945. The period

of reconstruction (and the subsequent period, which started around the mid-1960s when the new universities and technical high schools were founded) saw the formation of at least twenty new classification systems in West Germany. The practical foundations established by Focke were not seriously challenged by any of these new systems. However, they all used notational systems and systems of varying degrees of complexity to provide for general tables of standard form, subject, and place subdivisions.

The idea of a common system to serve all or most German academic and research libraries emerged again in the late 1960s and early 1970s, and is being vigorously pursued today.[66] With their strong commitment to the computer and with their continued dedication to the classified catalog, it now seems remotely possible that German academic librarians will finally produce a new general classification system which many of them can adopt. If this should come to pass, we shall see the end of a tradition which is at least 200 years old, and Focke's code, which has dominated German classification in the twentieth century, will have finally been displaced. But even as the idea of a new national classification was being studied, the question was raised as to the possibilities of a new international system.[67] With the success of the attempts by the International Federation of Library Associations to standardize descriptive cataloging, it does not seem unlikely that the possibilities of a new international classification will soon be seriously explored. It is ironic that of all countries which might be involved in such a cooperative project, the United States is the most reactionary in terms of classification theory and practice.

FOCKE AND CLASSIFICATION IN THE UNITED STATES

The years during which Focke was preoccupied with classification were the very same years during which the foundations of the Library of Congress Classification system were established. Although it took a decade for the schedules to be published in a reasonably complete form, the basic structural features of the Library of Congress Classification system were firmly established between 1900 and 1904, and have not been substantially changed since then.[68]

La Montagne, in his study of the history of classification in the United States, said that the influence of German classification was slight.[69] But La Montagne was interested in what might be identified as the sources of classes (i.e., in philosophical systems, scientific systems, etc.), and devoted very little space to the development of structural features of library classifi-

cation systems (i.e., the use of synthetic devices, notation, etc.). He spoke of the "final battle in the conflict between Bacon and Brunet for the dominance of American library classification."[70] He noted that Hartwig's system had some influence on the Library of Congress Classification system in the sharp distinction between "Geisteswissenschaften" and "Naturwissenschaften."[71] Today, in light of the development of classification after 1945, another useful way to look at the history of classification in the United States is as a struggle between two structural ideas, enumeration and synthesis, rather than a struggle between the advocates of the respective systems of Bacon and Brunet. One has to note that, examined in this light, the Library of Congress adopted a strictly enumerative system with no notational synthesis. Both Dewey and Cutter, on the other hand, used synthetic features which subsequently had a profound impact on the course of library classification in the twentieth century.

La Montagne has shown the relationship between the Cutter Expansive Classification and the Library of Congress Classification system.[72] But what has not been noted, except by Shamurin,[73] is that the Library of Congress did not adopt those features of the Expansive Classification which were most innovative. The basic expansibility of the Cutter system was lost when the Library of Congress adopted an integral notation. Furthermore, Cutter made use of tables of standard subdivisions and area tables, each with a synthetic notation. These devices were also rejected by the Library of Congress. Whether he knew it or not, Martel chose Focke over both Cutter and Dewey in these issues. And one wonders whether it is merely a historical accident that the notation of the Library of Congress Classification system is different from the notation of Schleiermacher's *Bibliographisches System* only in the use of cutter-type numbers for alphabetically arranged subclasses.

Focke's code corresponds so closely to the practice of the architects of the Library of Congress Classification system that it could have served as their working guidelines. The concepts of literary warrant and bibliographic independence, both spelled out quite clearly by Focke in 1899, were guiding principles in the construction of the Library of Congress system. The idea of starting with independent disciplines (rather than with a philosophical or theoretical plan of the total structure of knowledge) was central to Focke's code and to the Library of Congress Classification system. The idea that one system can serve both for a classified catalog and for shelving books may have been the "*Credo germanico*," but it seems to have also been the practice at the Library of Congress until around 1942.[74]

Focke's use of logic in the construction of his scientific-systematic classes, however, is not consistent with the Library of Congress practice, despite its considerable modification with his subject-alphabetic classes. However, it is not at all clear how rigorously Focke actually developed these hierarchical structures. In a brief example of his catalog published at Poznan, the much less rigorous nonhierarchical distinction between "general" and "special" aspects of a subject appears more frequently than do detailed hierarchies.[75] There is a certain resemblance between Martel's structural principles (his "seven points") and both the Poznan excerpt and Focke's rule 6. Furthermore, Focke placed great emphasis on the use of alphabetically arranged, coordinated subclasses, and this is also a basic feature of the Library of Congress system, though it is not as fully exploited as Focke would have wished. Other systems used by the Library of Congress to order subclasses (alphabetically by place name and chronologically by date of publication) are also used in the Poznan excerpt. But the assumption that each library is unique in its collections and services and therefore needs a unique classification system is basic to both Focke's code and the Library of Congress system (or, at least, such was the case around 1900). It is this idea, as much as anything else, which links both systems to the nineteenth century. We have, it seems, a remarkable series of coincidences, or else the relationship between the Library of Congress Classification and the work of Focke and German systems generally is much more extensive than has heretofore been suspected.[77]

In the United States, it was Richardson who emerged around 1900 as the most important classification theorist. Richardson was typical of the nineteenth century in his preoccupation with the larger order of science, in which he saw the sources of library classification. Like Henry Evelyn Bliss, his most notable American successor, Richardson literally tortured the idea of a logical order of knowledge. Focke, on the other hand, spent no time on this question—it was not relevant to the catalog he wanted to develop. Thus, while still clinging to the past in some ways, Focke was far ahead of his time in his concern with the structure of printed literature and its uses.

The greatest amount of caution is needed in commenting on the history of classification in the United States before 1900, for it has not yet been considered within the larger framework of European practice. For one thing, we have probably done a disservice to American classificationists by assuming that they either knew little of European classification or rejected

most of what they did know. The bibliography prepared by Spofford for the 1876 report of the U.S. Commissioner of Education is remarkable for its coverage of the European literature on cataloging and classification.[78] In his bibliography, Spofford included eighteen German library science texts; the oldest is Kayser's book of 1790, and the most contemporary is the 1871 edition of Petzholdt's text.[79] Of Petzholdt's work, Spofford said it is "undoubtedly the most valuable,"[80] and in 1901 Richardson said to the library science students in Albany, "You are doubtless referred in your classes to...the treatises of Maire and Graesel and the like."[81] We must also keep in mind that German ideas of higher education (especially the emphasis on research and scholarship) had a very strong influence in the United States during the last decade of the nineteenth century; and, of course, many American scholars had studied in Göttingen, Berlin and other German universities. In other words, despite La Montagne's excellent work, much remains to be done toward understanding the complex intellectual environment of the Library of Congress Classification and its early development.

CONCLUSION

In his paper of 1899, Focke said that the study of the classified catalog is a historical discipline.[82] This was prophetic, for it was to be the fate of his own work that it is today of only historical importance. But however his work is categorized, it is clear that it does not fit the stereotype of what is identified in the Anglo-American library literature as "traditional classification."[83] He rejected the idea of basing a library classification system on philosophical or theoretical concepts of a fundamental order of knowledge. He was committed to an open-ended view of scientific progress, and knew that this had to be taken into account in structuring a classification system for library use. Although he was primarily interested in the structure of the classified catalog, he did not solve the problems of structural details, and today we cannot conceive of a classification system without a corresponding symbolic language of classification notation. The idea that each library, with its own unique clientele and functions, needs a unique classification system—an idea which actually has considerable merit—was, for better or worse, rejected by the library world at large. In the one Western country where the idea is built into the structure of librarianship, West Germany, there is increasing pressure to abandon this essentially nineteenth-century concept.

Nevertheless, that Focke's work has been of enduring value in the United

States is evident in the extent to which, hundreds of librarians have adopted a system which, with only a few reservations, he would probably have heartily approved: the classification of the Library of Congress. The odd historical twist is that what Focke proposed as a flexible method of catalog construction became, at the Library of Congress, a rather rigid system for organizing books on shelves. And Focke would have not been surprised that this system, tied as it is to millions of books, has become virtually useless as a bibliographical classification.

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26. _____, "Allgemeine Theorie der Klassifikation," op. cit., p. 16.

27. _____, "Classification," op. cit., p. 130.

28. Ibid. *See also* _____, "Grundlegung zu einer Theorie," op. cit., p. 10.

29. _____, "Classification," op. cit., p. 129.

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31. _____, "Classification," op. cit.

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36. Ibid., p. 73.

37. Ibid., p. 72; and Schleiermacher, Andreas. *Bibliographisches System der gesammten Wissenschaftskunde.* Braunschweig, F. Vieweg und Sohn, 1852, vol. 1, p. 3.

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39. Focke, "Grundlegung zu einer Theorie," op. cit., p. 73.

40. _____, "Classification," op. cit., p. 131.

41. Leyh, op. cit.

42. Focke, "Allgemeine Theorie der Klassifikation," op. cit., p. 15.

43. Schleiermacher, op. cit. This index is, in some of its sections, a relative index in that it "lists subjects and also related aspects of the subject that may appear elsewhere in the schedules" (Landau's definition; *see* Landau, Thomas, ed. *Encyclopedia of Librarianship.* 3d rev. ed. London, Bowes & Bowes, 1966, p. 393). Dewey may have reinvented the relative index, but he certainly did not invent it. See, for example, the entries under *Feuer* in Schleiermacher, op. cit., vol. 2, p. 643:

Feuer,	P, 220
—höllisches,	S, 265
—medicinischer Gebrauch,	R, 779
—Verehrung desselben,	I, 5

44. Graesel, op. cit.; and Petzholdt, Julius. *Katechismus der Bibliothekenlehre.* Leipzig, J.J. Weber, 1856. (2d ed., 1871; 3d ed., 1877.)

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47. Ibid., p. 156.

48. Ibid., p. 167.

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53. Fuchs, Wilhelm. *Zur Theorie und Praxis des Realkatalogs* (Hainbergschriften, Arbeiten Göttinger Bibliothekare, vol. 9). Göttingen, Häntzschel, 1941.

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55. Aschenborn, on the other hand, is more inclined to take Fuchs's theories seriously and writes that, following Trebst, Fuchs was the only theorist to deal with the fundamental problems of subject cataloging; *see* Aschenborn, Hans J. *Sachkatalogisierung seit Trebst* (Mousaion, Boek- en bibliotheekwese, nos. 15-17). Pretoria, University of South Africa, 1957. The work of Fuchs, as that of Trebst, needs more study.

56. Trebst, Hans. "Studien zu einer analytischen Sachkatalogisierung," *Zentralblatt fur Bibliothekswesen* 48:36-61, 119-38, 1931. (Also published in a revised and enlarged edition, Leipzig, O. Harrassowitz, 1931.)

57. John Metcalfe, never an advocate of the ideas of Ranganathan, wrote in *Information Indexing and Subject Cataloging* (New York, Scarecrow Press, 1957, p. 271) that Ranganathan's "fundamentals" (i.e., fundamental categories) are "like those of Trebst's subject analysis, as described by Pettee [*see* Pettee, Julia. *Subject Headings, the History and Theory of the Alphabetical Subject Approach to Books.* New York, Wilson, 1946, pp. 40-41], from which Ranganathan may have got his idea." Trebst's work was published in 1931, Pettee's in 1946, and—according to Jack Mills—the concept of fundamental categories is found for the first time in Ranganathan's work in 1944. *See* Mills, Jack. *A Modern Outline of Library Classification.* London, Chapman & Hall, 1960, p. 117.

58. Stevenson, Gordon. "The Mainzer Sachkatalog and its Background," *Library Quarterly* 40:318-39, July 1970.

59. Nissen, Claus. "Der Mainzer Sachkatalog in Theorie und Praxis." *In* Sigismund Runge, ed. *Beitrage zur Sachkatalogisierung* (Sammlung bibliothekswissenschaftlicher Arbeiten, bk. 45). Leipzig, O. Harrassowitz, 1937.

60. Strada, Francis. "The Decimal Classification in Germany," *American Documentation* 7:1-8, Jan. 1956.

61. Buzas, Ladislaus. *Der systematische Katalog der Universitatsbibliothek Munchen.* 2 vols. Munich, Universitatsbibliothek, 1957-58.

62. Gebhardt, Walther. "*Der systematische Katalog der Universitatsbibliothek Munchen*" (review), *Zeitschrift fur Bibliothekswesen und Bibliographie* 5:50, 1958; and Bauhuis, Walter. "Einheitssystem und Zantralkatalogisierung," *Zentralblatt fur Bibliothekswesen* 56:123, 1939.

63. Zimmermann, Erich. "Die Sachkatalogisierung an den deutschen Bibliotheken nach dem Kriege," *Zentralblatt für Bibliothekswesen* 64:248, 1950.

64. Lemcke, Johannes. "Der Aufbau des neuen Realkataloges der Staats- und Universitatsbibliothek Hamburg," *Zentralblatt fur Bibliothekswesen* 62:215-25, 1948.

65. Shamurin, op. cit., p. 429.

66. *See, for example,* Deutsche Bibliothekskonferenz. *Gutachten zur Frage einer Einheitsklassifikation für die Bibliotheken der Bundesrepublik Deutschland* (Bibliotheksdienst, Beiheft 78/79). Berlin, Deutscher Büchereiverband, Arbeitsstelle für das Büchereiwesen, 1972.

67. Dahlberg, Ingetraut. *Grundlagen universaler Wissenordnung* (Deutsche Gesellschaft für Dokumentation, Schriftenreihe, vol. 3). Munich/Pullach, Verlag Dokumentation, 1974.

68. La Montagne, op. cit., pp. 233-37.

69. Ibid., p. 204.

70. La Montagne, Leo E. "Historical Background of Classification." *In* Ann F. Painter, ed. *Reader in Classification and Descriptive Cataloging.* Washington, D.C., NCR Microcard Editions, 1972, p. 28.

71. _____, *American Library Classification,* op. cit., p. 253.

72. Ibid., p. 226.

73. Shamurin, op. cit., p. 312.

74. La Montagne, *American Library Classification,* op. cit., p. 316.

75. Schultheiss, Franz G. "Zur Fortbildung des Halleschen Schemas." *In* Focke, *Festschrift zur Begrüssung,* op. cit., pp. 54-56.

76. Immroth, John P. *A Guide to Library of Congress Classification.* Rochester, N.Y., Libraries Unlimited, 1968, p. 38.

77. In any case, there may or may not be relationships between the Library of Congress Classification system and the system of the Berlin Realkatalog, and until the history of that catalog is written we cannot say that all possible sources for the history of the American system have been explored. On the Berlin Realkatalog, *see* Vorstius, Joris. *Die Sachkatalogisierung in den wissenschaftlichen Allgemeinbibliotheken Deutschlands.* Leipzig, O. Harrassowitz, 1948, pp. 32-42; and Roloff, Heinrich. "Aufstellung und Katalogisierung der Bestände." In *Deutsche Staatsbibliothek, 1661-1961. Vol. 1: Geschichte und Gegenwart.* Leipzig, Verlag für Buch- und Bibliothekswesen, 1961, pp. 131-74.

78. Spofford, A.R. "Library Bibliography." *In* U.S. Bureau of Education, op. cit., pt. 1, pp. 733-44.

79. Kayser, op. cit.; and Petzholdt, op. cit. For Kayser, Spofford gives the imprint date of 1797. If there was any edition or printing other than the one of 1790, I have not been able to trace it.

80. Spofford, op. cit., p. 733.

81. Maire, Albert. *Manuel Pratique du Bibliothécaire.* Paris, A. Picard et Fils, 1896; and Richardson, op. cit., p. 25.

82. Focke, "Grundlegung zu einer Theorie," op. cit., p. 69.

83. The central problem with the concept of traditional classification is that it is based on a study of probably not more than a dozen library systems and a few European philosophical systems. *See, for example,* Shera, Jesse H. "Classification as the Basis of Bibliographic Organization." *In* _____ and Margaret E. Egan, eds. *Bibliographic Organization.* Chicago, University of Chicago Press, 1951, pp. 72-93; and Abrera, Josefa B. "Traditional Classification: Characteristics, Uses and Problems," *Drexel Library Quarterly* 10:21-36, Oct. 1974. In fact, what we define as traditional classification may not have very much to do with what most librarians actually did when they constructed their classification systems before 1900. It has been said that the Library of Congress system is not traditional, which is true only if we accept the stereotype of traditional classification. *See* Richmond, Phyllis A. "Transformation and Organization of Information Content: Aspects of Recent Research in the Art and Science of Classification." *In* Painter, op. cit., p. 148. In fact, this system is traditional, but its traditions are different from those of the Dewey system. I would argue that the Library of Congress Classification system is based on the most conservative nineteenth-century practice. This, of course, is controversial, and I would cite Shamurin's categorization of the Library of Congress system to support my own views (*see* Shamurin, op. cit., pp. 305, 312).

APPENDIX

Regeln fur die Anlegung und Fortfuhrung des Realkatalogs

1. An die Stelle einer systematischen Klassifikation der Gesamtwissenschaft tritt eine aus dem Charakter und den Aufgaben einer jeden Bibliothek sich ergebende und den praktischen Bedurfnissen entsprechende Teilung in Einzelwissenschaften, deren jede durch ein Hauptfach zum Ausdruck zu bringen ist.

2. Die Frage, ob ein Forschungsgebiet als Einzelwissenschaft zu behandeln sei, entscheidet sich nicht nur nach seiner wissenschaftlichen Bedeutung, sondern auch nach dem Grade seiner bibliographischen Selbständigkeit.

Demgemäss wird fur eine neu konstruierte Wissenschaft ein neues Hauptfach erst dann zu begründen sein, wenn eine reichliche Fülle bibliographischen Materials vorhanden ist.

3. In der Einzelwissenschaft wird die jeweilig gültige bezw. die verbreitetste Systematik zu Grunde gelegt. Selbständige Neubildungen von Systemen sowie Umbildungen älterer Systeme sind gestattet, sobald sie durch den Fortschritt der Wissenschaft genügend begründet erscheinen.

4. Die Anzahl der im Realkatalog zum Ausdruck kommenden Abstufungen eines Systems steht in geradem Verhältnis zu der Masse der in der Bibliothek jeweilig vorhandenen einschlägigen Literatur.

Mit anderen Worten: Die Entscheidung zwischen Unterordnung und Gleichordnung von Begriffen, die im Verhältnis des Allgemeinen zum Besonderen stehen, richtet sich nach dem Grade der bibliographischen Selbständigkeit des engeren Begriffs.

5. Enthält eine systematische Abteilung eine die Übersicht erschwerende Anzahl koordinierter Unterabteilungen, so ist stets die sachlich-alphabetische Anordnungsmethode zu befolgen, welche somit als eine wesentliche Ergänzung der systematischen Anordnungsmethode Verwendung findet.

6. Von den mit Hilfe der systematischen Klassifikation gewonnenen materiellen Gruppen, d. h. von den Stufen des Systems und den sachlich-alphabetischen Abteilungen des Realkatalogs, sind diejenigen Fächer strengstens zu unterscheiden und auseinanderzuhalten, welche nach Massgabe der in den Büchern selbst liegenden Darstellungsformen zu bilden sind, d. h. die literarisch-formalen Abteilungen, wie: Bibliographie; Biographien; Geschichte; Philosophie und Methodologie; Quellen; Zeitschriften und Ähnliches; Sammelwerke; Lexika; systematische Darstellungen; Monographien.

Diese Abteilungen wiederholen sich mehr oder weniger zahlreich in allen Wissenschaften und ihren Theilen, während in diesen selbst nur die durch eine formelle Scheidung begründeten Abteilungen Allgemeines und Besonderes konstant sind.

7. Die Anzahl der in einer Stufe des Systems zum Ausdruck kommenden literarisch-formalen Abteilungen steht ebenfalls in geradem Verhältnis zu der Masse der in der Bibliothek jeweilig vorhandenen einschlägigen Literatur.

Mit anderen Worten: Die Entscheidung zwischen Trennung und Zusammenfassung der verschiedenen, unter sich stets koordinierten literarisch-formalen Begriffe ist gleichfalls abhängig von dem Grade ihrer bibliographischen Selbständigkeit.

8. Die durch die sachlich-alphabetische Anordnungsmethode ergänzte systematische Anordnungsmethode kreuzt sich mit der literarisch-formalen in regelmässiger Abwechselung.

Durch die Befolgung dieser Regel werden die materielle Gliederung, d. h. die

Auseinanderlegung des Wissenschaftsinhaltes, und die formale Gliederung, d. h. die Auseinanderlegung der Darstellungsformen, einerseits streng geschieden, andererseits übersichtlich verbunden. Die Anzahl der durch Anwendung dieses Verfahrens entstehenden Rubriken ist gleich der Summe der in sämtlichen systematischen und sachlich-alphabetischen Abteilungen konstruierten literarisch-formalen Fächer.

9. Innerhalb der so gewonnenen Rubriken folgen sich die Bücher in bibliographisch-chronologischer Ordnung. Irgend welche Abweichung von dieser Regel ist unzulässig.

10. Für jede grössere Bibliothek empfiehlt es sich, die Benutzung des Realkatalogs durch ein sorgfaltig anzulegendes und fortzuführendes, alle Hauptfächer umfassendes Schlagwortregister zu erleichtern.

Schlussbemerkung. Da der vorstehende Entwurf lediglich die Grundlage einer Instruktion für den Realkatalog enthält, so ist davon abgesehen worden, über Einzelheiten und über Fragen der Technik Bestimmungen vorzuschlagen.—Dass die Relativität der Regeln 1, 4 und 7 verbietet, Schema und Signaturen von Bibliothek auf Bibliothek rein mechanisch zu übertragen, ist zwar selbstverständlich, möge aber doch ausdrücklich hervorgehoben sein.

Reprinted from: Focke, Rudolph, ed. *Festschrift zur Begrussung der 6. Versammlung Deutscher Bibliothekare in Pozen.* Poznan, J. Jolowicz, 1905, pp. 16-18.

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